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THE NEWSPAPER FOR
THE HOBBYIST OF VINTAGE
ELECTRONICS AND SOUND

THE HORN SPEAKER

An Interview

By H. WINFIELD SECOR With Nikola Tesla

N. Tesla
(1856-1943)

AT the present day when many momentous problems in science and international politics are being weighed in the balance of logic and reason, it is a very opportune time, it seems, to listen to the views and ideas entertained on some of these problems by such a famous engineer and scientist as Dr. Nikola Tesla. The interviewer wended his way across Bryant Park in the shadow of the great Astor Library and ascended to the 20th floor of an adjoining sky-scraper, where Dr. Tesla has his offices and laboratory. Having made known my mission, I asked Dr. Tesla the following questions.

The Disarmament Conference

Q. Do you believe that the Disarmament Conference now being held at Washington will do much good, especially with respect to prevention of war?

A. The extraordinary proposal of Secretary Hughes has produced a favorable impression thruout the world and the remarkable readiness with which it was taken up by the foreign governments is an auspicious beginning. Some agreements as to naval expenditures and status of the Powers in the Pacific have already materialized and that other results of value will follow there can be no doubt. But it is equally evident that they will consist merely of economic measures, which can have only a negligible influence as preventatives of war.

The primary object of the Conference is the reduction of armaments. As the safety of any country depends not on the absolute, but relative, military strength a proportionate reduction of the force and equipment suggests itself naturally as a means of lessening the cost of upkeep. This is a very old idea in the practical application of which insuperable difficulties have been encountered heretofore for want of proper standard of reference. The requirements are different in each individual case and an attempt to make the reduction on the basis of population, area, resources, industry, commerce, or any other national asset, would be manifestly futile. Moreover, participation by every nation is essential to the thoro execution of such a plan, and to arrive at an adjustment satisfactory to all would be next to impossible. All that can be accomplished at present is some equitable treaty between the few leading countries for minimizing the burdens of war, which is highly desirable for economic reasons but leaves the main problem unsolved. The idea that armed conflicts between nations can be prevented by written covenants involves a scientific fallacy. It is an attempt to put effect before the cause. Experience must precede the formulation of laws. Universal peace may be eventually brought about by civilizing forces and agents and international conferences will then only serve the purpose of giving clearer expression to a common desire. Nevertheless, the conclusions reached at Washington may prove of tremendous consequence in time to come, especially for this country which, until lately, has adhered to its traditional policy of isolation.

On general principles three courses are open to the United States. One is to continue arming and maintain an overwhelming superiority over other nations. The inexhaustible wealth of this country would easily enable it to keep up the pace and if safety is placed above every other consideration this should be done. The carrying out of the program would call for vast outlays but under the conditions existing American military supremacy might, perhaps, be the best means of insuring general prosperity and welfare. The second is to advocate complete disarmament insofar as the enforcement of law and order would permit. In that case this country would still be safe, as its resources would enable it to prepare for war quicker than any foe. The third is to enter an agreement with other powers, limiting the armaments, which would virtually mean an alliance involving more or less hazard and peril.

As regards the abolishment of war, the measures adopted by the Conference to this end will be as futile as all the previous ones. Opinions on this subject are divided. In the view of some, war is the greatest curse; others think it is a psychological necessity and beneficial—like a storm which clears the atmosphere. There is a perpetual conflict going on between nations as well as individuals. Ordinarily it is merely a competitive struggle, occasionally it becomes a deadly strife. This is primarily due to imperfect mutual understanding and the basic physical cause is the immense extent of the terrestrial globe. The most effective means towards insuring universal harmony and peace is, accordingly the annihilation of distance which must be brought about in three distinct respects: (1) dissemination of intelligence; (2) transmission of energy, and (3) transport of bodies and materials. All this can be done thru the development of the wireless art. As the first step I proposed twenty years ago my World-System which would leave all the present means intact and enable instantaneous transmission from one to any other point of the globe, of signals, speech, pictures and characters of every description. I have made important improvements since and am almost assured that a number of comparatively very small and compact plants, with a telephonic range of twelve thousand miles and devoid of high towers, will be put in operation in various countries. Of immeasurably greater consequence, however, will be the wireless transmission of energy, which can be successfully effected by the use of the same underlying principles and will make cheap motive power for all purposes available everywhere. Then it will be possible to propel flying machines at great speed without fuel and thus space will be annihilated and the impediments to contact and mutual understanding removed.

NIKOLA TESLA has no doubt one of the greatest intellects of his time. Our readers will be pleased to peruse his latest ideas concerning world matters of interest to all of us. We have stated in our columns before that Dr. Tesla is at least 100 years ahead of our times. Many of his prophecies have come true in the past, and we believe that the words which he addresses to the world thru SCIENCE AND INVENTION will be listened to attentively by all.
—EDITOR.

Future Wars

Q. What are your views on science in respect to future wars?

A. Discovery and invention ever tend to intensify the forces and agents for attack and defense. The wars of the future will have no semblance to those waged up to now. They will cause less physical suffering but will be all the more terrible. The countries engaged in the conflict will not send out armies, fleets, or aerial squadrons to meet in battle, but crewless vessels will be launched from one to the other with enormous speed and at distances of thousands of miles. Such apparatus does not exist but could be speedily constructed and in an article on "Telautomatics" which appeared in the ELECTRICAL EXPERIMENTER (former name of SCIENCE AND INVENTION) of October, 1919, I have endeavored to convey an idea of the same. These infernal engines will drop quantities of poisonous gases and other destructive chemicals on any city or place, the geographical position of which is accurately known. Battleships, guns, torpedoes, submarines and even manned flying machines will become of trifling importance and there will be no need for admirals, generals, or commanders of forces, as all the work will be done by electricians, engineers and mechanics.

International agreements will not stop war, for the simple reason that they will be ignored the moment the life of the nation is at stake. To preserve itself it will sacrifice everything else. That is why Germany violated the neutrality of Belgium and why Italy deserted her allies. Before universal peace can be attained the whole human race must be changed for the better, thru closer contact and cultivation of a higher ideal, which will gradually supplant that of patriotism.

Is There Vegetation and Life on the Moon?

Q. Do you believe that there is vegetation and life on the moon, which we have always been taught possesses no atmosphere capable of supporting such?

A. I have read with great interest the announcements of Professor Pickering, as well as some adverse comments on the same. Personally I am inclined to place greater faith in the statements of a painstaking specialist than in the opinions of those who have not studied the subject, however competent they might be otherwise. The observations of this astronomer, if confirmed, will be of great importance, not only to science, but because of the psychological effect on human beings. I have always thought that any evidences of life on other planets would be of incalculable benefit to our world, and this is why I have devoted much of my energies to interplanetary communication ever since I received, in 1899, the singular disturbances that, according to all experimental evidence, emanated from Mars.

Future of Electrical Engineers

Q. What are the chances today and in the immediate future for electrical and radio engineers?

A. As regards the application of electricity, although the development of late years has been proceeding at a bewildering pace, the future offers incomparably greater possibilities. Especially bright appear to be the prospects for wireless experts if the art is permitted to expand freely and the enterprises are raised to a higher level and dignity.

The Edison Questionnaire

Q. With especial regard to the Edison questionnaire, do you believe this to be a good way to select an employe? How do you select employes?

A. I regret to state that I cannot agree with Edison. I may say, in fact, that my views are diametrically opposite. A young man with a good college education will always have an overwhelming advantage in working out the problems of his life. Edison attaches too great a value to mere memory. The imitative gift, altho useful, is not of very high order. Some monkeys, for instance, which are possest of but rudimentary intelligence, exhibit it to an astonishing degree. Encyclopedias are now within the reach of every employe and there is no necessity for surcharging the mind with virtually useless knowledge. I prefer to test the worth of an employe by giving him some problems to solve. This involves the exercise of his highest faculties. An assistant who can solve problems is worth a hundred of those who are able to tell what *has been done*. But, perhaps, the best is the method followed by the great J. Pierpont Morgan, who placed character above all and never made a mistake. Character implies intelligence, devotion to the task, loyalty, honesty, good sense, and other qualities which are especially valuable in an associate.

Spiritualism

Q. Do you believe in spiritualism to any degree? Do you really believe that a full life-size materialization of a human body has ever been produced at a spiritualistic séance?

A. Most certainly I do not believe in any such manifestation, but I have no prejudice against anyone who gives himself to these illusions, except those who are cunningly exploiting the public. I have proved to my complete satisfaction, thru continuous observation, that we are automatic engines, the actions of which are governed from the outside chiefly by rays of light. Being of identical construction and subject to the same influences, we respond in like manner. This concordance of action makes possible mutual understanding, and is the basis of what we term "reason." Our minds are blank, there is no stored knowledge, and memory is simply the increased facility of response to repeated impressions. It is like an echo in a forest which only occurs in answer to a call.

Will Radiophone Supplant Present Wire System?

Q. Do you think that radio telephones will supplant the wire telephone in the near future? Do you believe that several hundred thousand radiophone stations could operate in an area no larger than that covered by New York, all using differen wave lengths, without troublesome interference?

A. I do not think that the development of the wireless telephone will be hurtful to intelligence transmission thru wires.

On the contrary, it will be extremely helpful. This is precisely one of the advantages of my World System to which I have referred. As to multiplex wireless telephony, there are means available which will make it possible to operate as many telephones as there are human beings on the globe, entirely without mutual interference.

Q. Do you think that the high frequency alternator, the Poulsen arc, or the vacuum tube will survive the test of time, and which one of these will be used in future radio transmitters?

A. It affords me great gratification to observe that the frequencies of alternators, which I built and exhibited in 1891, have been universally adopted as the most effective. The so-called "Poulsen arc" and de Forest "Oscillion" are, if I understand correctly, nothing but my oscillatory transformers in which a hydrogen gap or vacuum tube is employed instead of an air space. In my early work I have described and used such means. Certain defects are inherent to all of these devices, and I have satisfied myself that another method of generating electrical oscillations, which I have invented, will prove the best. I expect to disclose it in the near future.

Will Electric Auto Supplant Gasoline Type?

Q. Is the gasoline motor car here to stay or do you thing it possible that a revolutionary discovery will be made in the near future of a storage battery which will re-establish the popularity of the electrically propelled automobile?

A. The internal combustion motor has very nearly attained the limit of perfection under the immense stimulus of the war. Thru careful study of the prime-mover problems, during the past six or seven years, I have come to the conclusion that a novel type of gas turbine, brought out by me some years ago, will be the next commercial type. Its characteristics are such that it is bound to find extensive use. It is so simple and effective that it is likely to displace even the electric drive. Fuel efficiencies, approximately equal to those of the Diesel engine, are obtainable, while at the same time an enormous saving in weight, space and cost of first installment results. It is doubtful that anything revolutionary in storage batteries will be produced as long as we use metals, but a successful oxy-hydrogen battery is possible.

Q. In the October, 1921, number of Radio News there appeared a description of a new direct current transformer. If the interviewer recollects correctly you intimated some years ago that you had devised a D.C. transformer working on a very simple principle. Could you give a diagram of your arrangement, and what do you think of such apparatus as to operation and efficiency, all things considered?

A. I have not had the time to peruse the article referred to, but understand that it deals with a new kind of rectifier. We can now obtain in several ways direct from alternating currents, but, of course, there is always room for further improvement. Many years ago I exhibited before engineers an alternator which was excited without a commutator. I have never had the opportunity to give a description of the invention in detail, but may state, in a general way, that currents of one direction can be obtained from it without commutation, and I have not given up hope that it may yet be put to some practical use.

The Future Phonograph

Q. It is agreed, it seems, in a general way, that the present-day talking machine, of no matter what make, is not the phonograph that we will expect to see tomorrow. In what way and along what lines do you believe that the future phonograph will be designed and built? Do you think the Poulsen telegraphone principle a good one to follow in further research toward perfecting a more perfect and scratchless talking machine, which will absolutely reproduce the human voice with true fidelity?

A. I have devoted considerable thought to improving the rendition of the voice in a phonograph, and sometime ago I produced an apparatus which is capable of making much longer records, at the same time yielding a better quality of tone. Owing to unfavorable conditions, nothing has yet been done with it in a commercial way. There will be in the future opportunities for use of the mechanical as well as the magnetic method. When it is desired to preserve the impressions for considerable periods of time the mechanical record will have to be employed, but when speed is the main object the magnetic will be generally more preferable.

Science and Invention

for February, 1922

letters

Dear Sirs:

I have an old Atwater-Kent Breadboard type radio with a round speaker horn that I would like to sell and also an old RCA radio and also the round at the top old table model radio - probably 1929-1935 model. Would you please send me a sample magazine and also a subscription blank and advertising rate copy? I would like to advertise these as soon as possible.

Very truly yours,
Deane A. Neitzel
Neitzel Realty Agency
113 S. 3rd Street
Watertown, Wisconsin 53094
Phone 414 261-2915.

EDITOR...Thought that I'd better get this information out as soon as possible, even if it sacrifices a paid ad.

Dear Jim,

Enclosed is a classified ad for the next issue of "The Horn Speaker". Good response from my last two adds.

Had a great time at the A.W.A. Convention in Canandaigua, N.Y. back in September. Also had a nice swap meet and radio auction in Weston, Mass. December 2. Good time was had by all. Now am looking forward to the spring meet down in Charleston, S. Carolina, April 18/19. Hope to meet a lot of new friends there. Have run out of room for my collection at about 125 sets, so now am trading for older items and sets in better condition. Improving quality of collection slowly this way. Notice a lot of new collectors joining the ranks month by month. It sure is a fun hobby and goes along real fine with "Ham Radio".

Good luck, good hunting & 73.
Keep warm & dry. 73.
Chet Wisner
1014 Main Street
Dalton Mass. 01226

Jim,

Don't know what happened all this time (mailed to me P.M. 1975 and I just got June 1975 magazine. Sure lost somewhere?

Just hope you still have the magazine.

I need Manual & Schematic Diagrahm for 23 tube E. H. Scott Philharmonic chrome radio. Big Scott in a beautiful antique cabinet plus 3 speed Scott Record player.

Sure good magazine, hope you still have it.

73s
Emmet G. Riggle
369 - 27th. St., N.W.
Massillon OH 44646

EDITOR....The post mark means that it was mailed first class. Hope things get better.

Dear Sir:

I am a novice radio collector and recently read an issue of THE HORN SPEAKER. I am very impressed with the newsletter and would like to place an advertisement in the next issue. I am interested in obtaining a cathederal type radio for my collection and would like to purchase one or trade some of the films in my old-time television program collection. Enclosed is a copy of the advertisement I desire and a check for $2.16, for 36 words at 6¢ per word. Thank you.

Sincerely,
David L. Taylor
108 Bass Street
Tallahassee FL 32301

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Subscribers, advertisers, photographers and writers, please use the following address;
THE HORN SPEAKER
P.O. BOX 53012
DALLAS TX 75253

Dear Jim,

Thank you for the renewal reminder. I always look forward to each issue. Only wish there were many more pages.

As you already know, my main interest in VINTAGE TELEVISION and therefore would like to see much more in the "Horn Speaker" on this subject.

If not original material, why not reproduce some early (1920s-early 1950s) magazine articles and advertisements.

Because of recent national publicity concerning my television collecting, I have literally received hundreds of letters from folks interested in vintage television. Most wanted to know the current value of an older model set in the attic or basement, but some were genuinely interested in starting, (or adding to) television collections. Some wanted to contact other collectors (particularley in their areas) and I suggested the "Horn Speaker" as an excellent forum.

So Jim....thank you....keep up the great work....and please..... MORE TELEVISION!

Sincerely,

Kent Warner
1848 Grace Ave.
Hollywood CA 90028

EDITOR...Yes, television deserves much attention.

Dear Jim:

My sub. expires in 3-80. I am sending you a check for $11.00 for 2 years. I have been building radios since 1935 and I want to say you have a wonderful publication.

I intend buying some sets from the adv. in the Dec. 79 issue.

Yours,
Paul L. Klewer
7322 Cedar
Great Lakes Shores
Lexington MI 48450

P.S. The article on E. H. Armstrong is super. This issue should be a collectors item.

Dear Jim:

I guess it's time for me to renew my subscription, so I am enclosing my check for $11.00 for a two year extension.

I enjoy reading your paper, & find the comments of other readers very interesting.

My main hobby is collecting old vacuum tubes from the early "20s", although I do collect & have a few old radios.

73

Leo Gibbs
701 Brookfield Road
Kettering OH 45429

Dear Jim:

Please renew my subscription to "The Horn Speaker," which I enjoy very much.

I was wondering if you might know of a definative book of who invented or developed what in radio. I have read a number of biographys and auto-biographys but all of these are very biased in favor of the subject.

Sincerely,
Charlie Lauter
1505 S.W. 82nd. Place
Miami FL 33144

EDITOR....All of this bias can o often ferret out information that can later be judged in an objective manner. S. Gernback's Radio Encyclopedia is good.

club news

IHRS SPRING MEET

THE INDIANA HISTORICAL RADIO SOCIETY AND THE ANTIQUE WIRELESS ASSOCIATION WILL HOLD A SPRING REGIONAL MEET ON SATURDAY, APRIL 19, 1980 AT THE AUBURN-CORD-DUESENBERG MUSEUM IN AUBURN, INDIANA. EARLY REGISTRATION AND ENTERTAINMENT FRIDAY EVENING, LARGE SWAP MEET AND TWO AUCTIONS ON SATURDAY PLUS SATURDAY NIGHT BANQUET. Advance reser-

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THE WORLD'S LARGEST RADIO

THE ULTIMATE SCOTT RADIO RECEIVER --- FULLY DESCRIBED IN THE APRIL 1936 ISSUE OF THE SCOTT NEWS!

YOU CAN ADD THIS BEAUTIFUL ISSUE OF THE SCOTT NEWS TO YOUR COLLECTION OF ANTIQUE RADIO LITERATURE. WE HAVE PHOTO-OFFSET PRINTED THIS ISSUE TO OFFER YOU THE HIGHEST QUALITY REPRODUCTION POSSIBLE. EVERY DETAIL OF THE ORIGINAL COPY HAS BEEN CAPTURED BY A $30,000.00 CAMERA. THE ULTIMATE SCOTT CONSISTS OF FOUR LARGE CHROME-PLATED CHASSIES, FIVE SPEAKERS, A SEPARATE PHONOGRAPH AND RECORD CUTTING TURN TABLE. WE BELIEVE THAT THIS WAS THE LARGEST RADIO RECEIVER EVER MANUFACTURED. THE SCOTT STUDIO IN CALIFORNIA AND THE ALLWAVE IMPERIAL ARE ALSO ILLUSTRATED IN THIS ISSUE OF THE SCOTT NEWS.

ONLY $4.00 POSTPAID

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PUBLISHERS OF P.O. BOX 28572 DALLAS TEXAS 75228
ANTIQUE RADIO TOPICS &
THE CLASSIC RADIO NEWSLETTER

vations for banquet required, $11. each including Museum. $2. each for museum only. Contact ROSS SMITH, 1133 STRONG, ELKHART IN 46514 for reservations and program. Make checks to I.H.R.S.

ANTIQUE WIRELESS ASSOCIATION

South East Conference
April 18-19, 1980
HEADQUARTERS
Holiday Inn Downtown
125 Calhoun at Meeting
(Block of rooms reserved for AWA Contact directly)
Charleston, S. C.
HOST - WCSC Broadcast Museum

FRIDAY, APRIL 18

3 - 7 p.m. Registration & get together for early arrivals
7 - 11 p.m. Hospitality - Director's Room

SATURDAY, APRIL 19

8 a.m. - 12 noon Registration continues
9 a.m. - 12 N Flea Market (covered in case of rain)
Tour Broadcast Museum
10 - 11 a.m. Register for Equipment Contests, Lew Elias, W4DBT, chm.

LUNCH ON YOUR OWN

1 p.m. Welcome and Introductions - Patsy Hicken
1:15 p.m. Lou Moreau, W3WRE, "The Lightening Slingers"
2 p.m. Dick Schamberger - "History of Federal"
2:45 p.m. Bruce Kelly, W2ICE- ("This Business of Collecting")
3:30 p.m. Wes Chatellier, W5DPM, 1928 Amateur Station display and discussion
4:15 p.m. Robert Lozier - Restoration Techniques; discussion; Bring yours! Share!

BREAK

6:30 p.m. Socializing
7 p.m. Banquet (Buffet Style)- Charleston Room
8 p.m. M.C. - Wells Burton, N4EE, Announcements and Awards
8:30 p.m. Edison Lohr - "Wells Fleet Station"
9:15 p.m. Drawing for door prizes - Dallas Swindal, KA4FVT

LADIES PROGRAM

Free tours of Historic Charleston and Middleton Garden. Sight-seeing and shopping in America's most historic city!

REGISTRATION

Registration (single).....$3.00
Saturday night banquet..... 8.00
Special Discount Husband and Wife Registration & Banquet.....20.00
Advance registration write: Wells Burton, N4EE, P.O. Box 73, Summerville S. C. 29483.

ANTIQUE RADIO COLLECTORS' CLUB OF DALLAS

Listen to this information, sent in by Walt Jackson, owner of Walt's Emporium.

The Antique Radio Collectors Club of Dallas will hold its original meeting on the 2nd Tuesday of March. No formal programs are planned and very little organization, including the organization of officers is anticipated. Activities will start with a flea market at 6 p.m. "Off The Air" demonstrations of battery sets, long distance contests and trouble shooting battery sets will be included in the activities of the evening.

Everyone is encouraged to bring swap gear, working battery sets for demostration and contests. The meetings will be held at Electronic Center, 2929 North Haskell, Dallas, Texas.

Walt has expressed that he wants to work with any other organizations of the area.

Walt, with an open arms attitude, added, "This club will encourage anyone, commercial or non-commercial to take part."

Word is out that dues are only $2.00 or $3.00 a year.

Photograph by Bray Productions

20 TIPS ON TUNING—

That Every Radio Fan Can Use

1

SET the detector in adjustment. If it is a crystal type, locate the sensitive spot with the assistance of a buzzer test. If it is a vacuum tube, the filaments should be lit; then if one terminal of the phones is disconnected a sharp click will indicate that the tube is functioning.

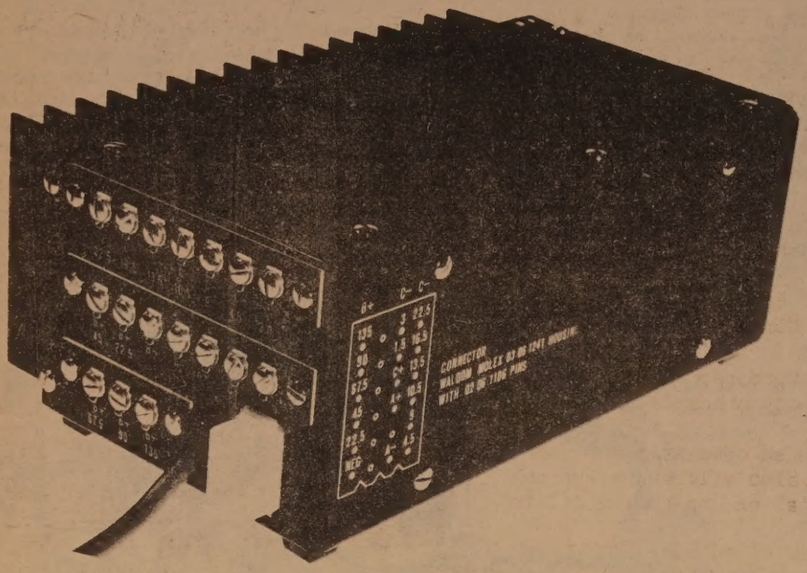
2

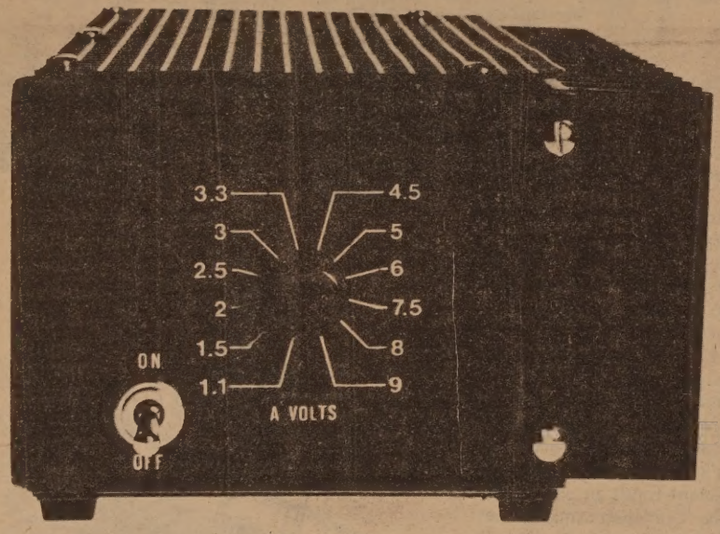
TIGHTEN the coupling between the primary and secondary circuits by bringing the primary and secondary coils into closest inductive relation. (Not necessary in the single circuit type of receiver).

3

TUNE the antenna or primary circuit. This is done by taps on the inductance or by a variable condenser.

the ANTIQUE APPARATUS CO.





H-10A POWER SUPPLY

Our New Power Supply At Last Year's Prices

The new H-10A has arrived. A premium quality power supply made of specially designed high quality components (no surplus or used parts).

And it's not being assembled in someone's garage. The H-10A has been contracted by a top-rate manufacturer who builds power supplies primarily for the laser industry. Thus it is fully warranteed for a full year.

NEW! "Molex plug" has been added for easier operation of your radios.

The Model H-10A is a premium quality regulated power supply. Very compact and highly engineered, it is designed to power over 99% of all battery radios manufactured between 1920 and the end of the vacuum tube era around 1960.

5 Amps of Power! More than twice the output of any other power supply on the market.

And no other power supply offers as many features or regulated outputs as the H-10A.

There are three independent, electrically isolated, regulated power supplies. The "A" supply provides 12 switched outputs between 1.1 and 9V. The "B" supply can deliver up to 5 *simultaneous* regulated outputs. The "C" supply can deliver up to *8 simultaneous* outputs. All outputs feature electronic short circuit protection.

Order now and save! Introductory price **$149.95** including postage in USA.

Offer Good For A Limited Time Only.

H-10A SPECIFICATIONS

Input voltages	117V AC, 50-60HZ, 80W maximum. 1.1, 1.5, 2.0, 2.5, 3, 3.5, 4.5, 5, 6, 7.5, 8, 9
"A" Output	Single output switch selected, short circuit protected, ripple less than 2.5 millivolts RMS @ 5V and 5A, regulation 0 to full load .02% @ 5V voltage tolerance 5%, overload protection. Using the 1.1V, 3.3V and 5.0V output, allow operation of appropriate tubes with no danger of burn-out from improper filament rheostat adjustment.
"B" Output	22.5V, 45V, 67.5V, 90V and 135V may be used in any combination with a maximum total output of 50mA. Ripple is less than five millivolts RMS @ 22.5V and 50mA to less than 14mV RMS @ 135V and 50mA, voltage tolerance 5%, voltage regulation 0-50mA 2.5% fold-back current limiting.
"C" Output	1.5, 3.0, 4.5, 9, 10.5, 13.5, 16.5 and 22.5V; 50 mA @ 22.5V, ripple less than one millivolts, voltage tolerance 5%, regulation 0.1% at 22.5V. All other voltage obtained by a 25mA resistive voltage divider. Overload protected.
Controls	Power switch, "A" voltage selector switch, LED pilot light.
Line Cord	Three-wire, 6 ft., heavy duty.
Size	3¾" H. x 5¼" W. x 9½" L. (includes controls).
Weight	5 lbs., 14 oz.
Limited Warranty	Warranty is limited to repair or replace, at our option of any defect in materials or workmanship for a period of one year. Warranty does not cover shipping costs.
Ordering Information	Include check or money order for $149.95 to The Antique Apparatus Co., 11650 Riverside Dr., No. Hollywood, CA 91602. We will pay for shipping in the USA. California residents add 6% sales tax. Canadian residents add $5.00 for postage.

11650 Riverside Dr. No. Hollywood, CA 91602 (213) 506-1169

4

TUNE the secondary circuit. This is usually done by means of a grid variometer or a variable condenser.

5

IF the set is regenerative the tickler circuit should now be adjusted for maximum regeneration without distortion. In a honeycomb set this is done by moving the third coil (tickler coil) nearer to or farther away from the secondary circuit. Other regenerative circuits employ a variometer for this purpose.

6

IN the case of interference the coupling should be decreased and the signals tuned in again, in the primary and secondary circuits, until the interfering signal is eliminated. In a single circuit receiver the inductance of the antenna circuit should be varied and the signals retuned, with the antenna tuning condenser, until an adjustment is found where the interference is reduced to a minimum.

7

IF your antenna length is too long (over 150 feet) put in a series variable condenser to bring down the wavelength to a suitable value.

8

IF your antenna length is too short (under 75 feet) it would be advisable to put in either a variable condenser across the antenna inductance or a loading inductance in series with the antenna inductance to boost up the wavelength to a suitable value.

9

IN a regenerative receiver it is advisable to regulate carefully the adjustment of the filament current; if the filament is high, less regeneration will be found necessary, and if the filament is reduced more regeneration will be required. One particular combination of these two adjustments will bring in the signals clearest and with least distortion.

10

THERE are three methods of varying the inductance of a coil: By means of taps, by means of a slider or by means of a continuously variable inductor such as a variometer.

11

SHARPER tuning is accomplished by inductively coupled tuners than by conductively coupled tuners, and by two circuit receivers than by single circuit receivers.

12

REGENERATION causes an effect similar to the elimination of resistance from the radio frequency circuits of a receiving set, and in this way does away with energy losses in these circuits, thus producing louder signals.

13

A VERNIER condenser (a variable with two or three plates) is a great help in tuning when it is connected across the secondary coil of a variocoupler in a regenerative circuit.

14

DISTRIBUTED capacity in a tuning coil is deleterious to sharp tuning. Shellac or varnish or any form of wax adds to the distributed capacity of the coil to which it is applied.

15

THE looser the coupling in a two circuit tuner the sharper will be the tuning.

16

A RECEIVING set connected to a short, low antenna will tune sharper than if connected to a long, high antenna, although the latter will give stronger signals.

17

TUNING on a loop antenna is sharper than on an outdoor antenna; this is the case with all closed oscillatory circuits.

18

THE less resistance in an oscillating circuit the sharper will be the tuning in that circuit.

19

THE use of a smaller grid condenser in the vacuum tube detector circuit (say .00025 mfd. instead of the usual .0005 mfd.) results in greater selectivity of tuning.

20

AT least 50 percent of the efficiency of a receiving set lies in the skill of the operator who is tuning it.

POPULAR RADIO, February 1923

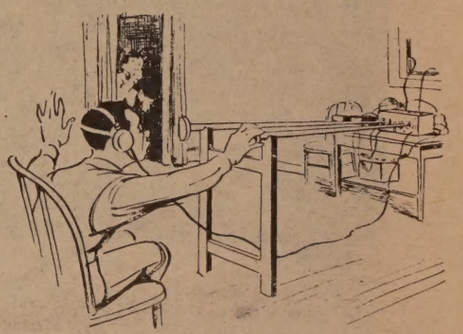
An Old Radio Company Changes Hands

ACCORDING to a recent announcement of Mr. Charles Gilbert, President of the De Forest Radio Telephone and Telegraph Company, the control of this company has passed into the hands of certain automobile manufacturers, including E. T. Jewett, of the Paige Motor Car Company, some of the financiers having large interests in the automobile industry, and William H. Priess, the latter having a patent on a certain reflex circuit at present used in some of the De Forest sets. The re-organization will place at the disposal of the company sufficient funds to permit that expansion which the ever-increasing interest in radio receiving seems to warrant. Dr. De Forest has been retained by the new company as consulting engineer, his services being engaged for a period of ten years together with rights relating to patents he may obtain during that period.

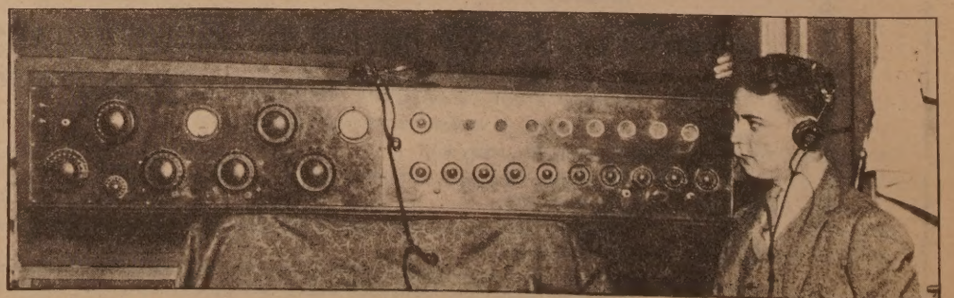
The De Forest company is anticipating a considerable increase in its tube plant. According to Mr. Gilbert, the present plant has a capacity of 1200 tubes a day, but it is expected to increase the number of men employed there from 300 to 600 and so increase the tube output to 2400 a day.

Certain subsidiary De Forest companies, notably those primarily interested in research and development, will continue their work as at present, but the result of their work will undoubtedly be placed at the disposal of the larger company. The phono-film, De Forest's invention in the field of talking movies, is not affected by the transfer as this development has already been taken over by a company formed especially for the purpose. Still another De Forest enterprise, the De Forest Patent Holding Corporation, is exempt from the new agreement, its control remaining as at present.

RADIO BROADCAST, July 1923



THE BEST WAY TO AVOID BODY CAPACITY



THE 10-TUBE SUPER-HETERODYNE SET WITH WHICH R. R. MAYO, WHO BUILT IT, HEARS EUROPE REGULARLY

RADIO BROADCAST, July 1923

PANTOPHONE

PARIS

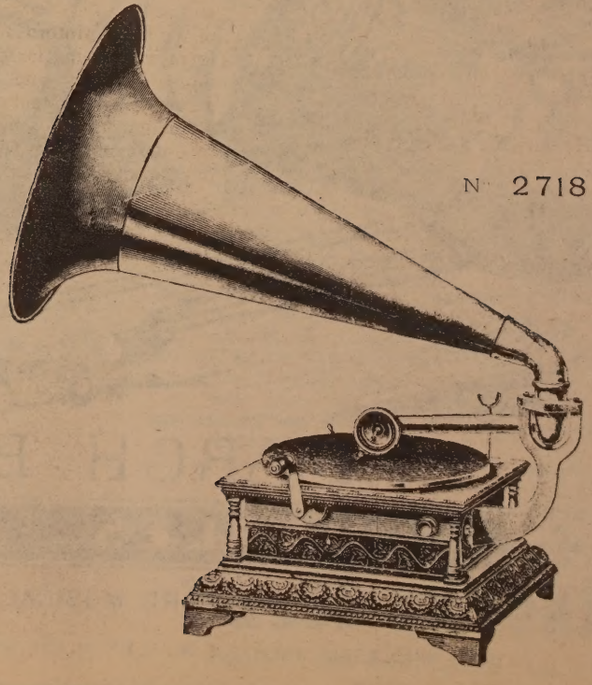
1906

2725

N° 2727

2717

N° 2718



PHONOGRAPH

MARCH BRILLANTE.

CHARLES D. BLAKE

PUBLISHED BY C.SHEARD, MUSICAL BOUQUET OFFICE, 192, HIGH HOLBORN.

CITY WHOLESALE AGENTS, E.W. ALLEN, 11, AVE MARIA LANE, AND F. PITMAN, 20, PATERNOSTER ROW

WALTS EMPORIUM

RADIO STORE CATALOGS

115. 1946 RADIO-ELECTRONICS REFERENCE ANNUAL Hugo Gernsback, 2.00
149. LAFAYETTE, WHOLESALE RADIO SERVICE CO'36, ~~$2.00~~ 1.00
150 BURSTEIN-APPLEBEE CO, two catalogs, 1964 and 65 including five suppliments, all for ~~$4.00~~ 3.00
116. SUPREME PUBLICATIONS, Service Notes, 1941, M.N. Beitman, corner off of cover, ~~$4.00~~ 2.00
117. 1926-1938 RADIO DIAGRAMS and servicing Info, Beitman, Vol. 1, a little damage to one corner, ~~$6.00~~, ~~8.00~~ extra copy, VG condition, ~~$8.00~~ 6.00
118. 1940 RADIO DIAGRAMS, Beitman, ~~$4.00~~ 2.00
119. 1941, three of these, good better and tops condition, $4, 5, 6, dollars each 2.00
120. 1942 RADIO DIAGRAMS, Good, ~~$4.00~~, exc., ~~$5.00~~ 4.

160 RADIO SHACK CORPORATION, Ham catalog, 1940, water stained on pages, ~~$3.00~~ 1.00
~~161 RADIO SHACK, 1955 catalog, fair shape, $2.00~~
162 RADIO SHACK, 1962, with 1964 and paper suppliment, all for $2.00

~~RADIO CATALOGS~~ 2.00 3.00
~~121. 1946, RADIO DIAGRAMS, Good, $4.00, exc. $5.00~~
122. PRACTICAL RADIO AND ELECTRONICS COURSE for home study, vol I, Supreme Publications, 1943, ~~$5.00~~ 3
~~123. SAMS Photofact TELEVISION COURSE, 1949, $4.00~~ 2.00
124. Radio Industry RED BOOK Replacement Parts, Buyers Guide, Sams, 1948, ~~$4.00~~ 2.00

NOTE — MINIMUM ORDER 5.00 FOR PREPAID SHIPMENT

166 ALLIED RADIO, 1936, two with different front covers, $5.00 each, or you can have both for $8.00
167 ALLIED RADIO, five suppliments plus Radio Data Handbook dated 1945, all for $3.00
~~168 ALLIED RADIO CATALOG, 1963, $3.00~~
169 ALLIED RADIO CATALOG, 1965, $3.00
170 ALLIED RADIO CATALOG, 1968, $3.00 OR all 3 for $6.00
171 REPCO, Akron, cleveland, 1959, $2.00
~~172 FEDERATED PURCHASER, NY, 1935, $3.00~~

EQUIPMENT SERVICE MANUALS, ETC.

173 RADSON early CB transceiver operations manual, $1.00
174 E F Johnson 6N2 Converter owners manual, ~~$2.00~~ 1.00
175 VARO MFG CO, TEL AIR Model 14C VHF Radioele, $1.00
176 PHILCO SERVICE, Radio set SCR 522-AM w/conversion to Ham use, ~~$3.00~~ 1.00
177 Philco Serice, electrical power equipment, $2.00
178 Same, on Radar System Measurements, $2.00
179 Navy Model TBY-8 Service manual, 2.00
180 DEPT. of the Army, 1953, Fundamentals of Telephony $3
~~181 MALLORY RADIO SERVICE ENSYCLOPEDIA, 1946, $2.00~~
182 PF Photofact Index, July/Aug 1952, index 33, $1.00
183 EDMUND CATALOG (SCIENTIFIC CO., NO#623, $1.00
184 RME 84 brochure and Hammarlund '46 parts book, $1.00
185. COLLINS RF Exciter units 310B-1 etc., & B&W Cat.$1.00
186 GE packet of various brochures, price lists, etc,$1.
~~187 NATIONAL RADIO packet of brouhures, $1.00~~

MAGAZINES

189. RADIO NEWS Aug.'48, Apr '49, mar '49, june '50, oct '50, Jan Dec, '51, Sept Oct June '52, March '59 $3.00 each
~~190. RADIO NEWS "SUPER-HETERODYNE BOOK", 1926, $6.00~~
191. RADIO NEWS Feb, March, April, May, June, August, all in 1930, $5.00 each.
192. RADIO NEWS and the Short-Wave, Gernsback, 10 issues 1933, $35.00; 1934, all 12 issues, $35.00; 1935, 11 issues, $34.00; 1936, 7 issues, @21.00
193. RADIO BROADCAST, 1930, Feb, March, April, all three have the last 3 pages missing, back cover is OK., $3.00 each.
194. SERVICE, Oct 1932, Vol 1, No #9, $1.00
~~195.~~ Neutrodyne Radio Receiver, by Freed-Eisemann Radio Corp., how to build , $4.00
~~196.~~ RADIO WORLD, July 5, 1924, ~~$4.00~~ 3.00
~~197. RADIO CALL BOOK MAGAZINE, March 1931, $4.00~~
~~198. Same as above, 1921, $5.00~~
~~199. Same as above, 1932, $4.00, 1932, March, April, 1932 May 1932, , $3.00 each~~
201 RADIO AMATEUR CALL BOOK MAGAZINE, 1954, $5.00
~~202 Montgomery Ward , Radio Sensation of 1938, catalog excellent color catalog with many models. $4.00~~
~~203~~ POPULAR MECHANICS, ELECTRONICS MADE EASY, 1956, $1
204 RADIO & TELEVISION NEWS, April '49, loose cover$2.
205 SCIENCE AND MECHANICS, GERNSBACK, Dec '34, feb'35, Oct'32, Dec'32, $4.00 each, all 4 for $12.
~~206 Radio-Electronics, Sept, '54, $1.00~~

TUBE MANUALS AND LITERATURE

~~207 SYLVANIA tube technical manual, $4.00~~
208 40 Uses for Germanium Diodes, Sylvania,Sylv.,$1.
209 Characteristics of Sylv.receiving tubes, '54,$1
210 RCA Triple Pindex, 1948, $2.00
211 RCA Air-Cooled Transmitting Tubes, ~~$4.00~~ 2.00
212 RCA REVIEW, July '41 , $2.00
~~213 RCA Receiving Tube Manual, 1940, soft cover$4.00~~
214 RCA Receiving Tube Manual, 1954, $3.00
~~215 RIDER, RECEIVING TUBE SUBSTITUTION GUIDE BOOK,$5.~~
~~216 Sylvania, Technical Manual, '36, $3.00~~
217 Sylvania, Servicing TV Receivers '51, @ $2.00
218 Sylvania Radio Tubes Tech Manual 1949, $4.00
~~219~~ Sylvania Radio Tubes tech Manual 1946, $5.00
220 Sylvania Radio Equipment Hints, $1.00
221 Sylvania Tube complement Book $2.00
222 Sams, Tube Substitution Handbook '64, $2.00
223 RCA Air Cooled Transmitting Tubes, '38, ~~$5.00~~ 2.00
224 G E Essential Characteristics $3.00

JOHN F. RIDER INDEX BOOKS, FOR PERFETUAL TROUBLE SHOOTER'S MANUALS.....

125. Television Manual, Index, Vol. I, ~~$5.00~~ 3.00
126. Volume XVI HOW IT WORKS, AND INDEX, ~~$5.00~~ 3.00
127. Cumulative Index for TV Vol 1 thru 15$ ~~5.00~~ 3.00
128. Index for TV Lolumes 1 thru 16, ~~$5.00~~ 3.00
~~129.~~ 1951 Index for Vol XVI, XVII, XVIII, XIX, XX, XXI, and XXII, book in tough shape, $2.00
130. Complete Index for Vol XI and "how it works", 1940, ~~$7.00~~ 4.00
131. Index, for Vol XI and XII, 1941, ~~$7.00~~ 4.00
132. 1933 Index for Vol. 1, II, & 3., ~~$8.00~~ 4.
133. 1934 Index for Vol. I, II, III, and IV, ~~$8.00~~ 6.
134. Index, special section of Vol IX, ~~$7.00~~ 4

233 RADIO, Catalog 65A, Simplex Radio Supply, $2.
137, IRC, Edition #3, 41, ~~$3.00~~ 1.00
138. SIMPSON model 260catalog, '52, $1.00
~~139~~. SUPREME Testing Instruments, catalog 1933, ~~$3.~~ 1.00
237 EVEREADY RADIO RECEIVERS, Service Manual, 1929 Series #30, ~~$12.00~~ 8.00
238 RADIO GUIDE, DEC '35, Vera Van on front cover,; March 1938, Nadine Conner on cover; and May 1938 with Tyrone Power on cover, $5.00 each
239 The ENGINEERING MAGAZINE, Feb 1900, ~~$3.00~~ 1.00
240 Sales Catalog, School, Radio Inst. of America, many pictures, etc, ~~$3.00~~ 1.00
~~241 SCIENCE AND INVENTION Annual experimenters, Aug 1921, $8.00~~
242 DETROLA RADIO RECEIVERS, chasis model 140/101 two books, ~~$5.00~~ 3.
243 ELECTRONICS FOR BEGINNERS Merle Duston, 64 p.'46$4
244 ARMY LIFE 1946, $2.00

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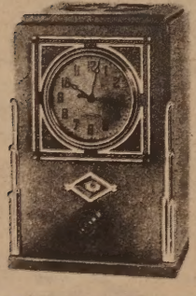
909 N.E. 11th Grand Prairie, Texas 75050
Evenings 214-262-7855

Wanted To Buy

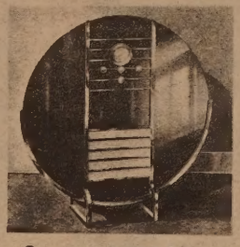
Cash - Paid **AC RADIOS 1 or 100** **Cash - Paid**

Will Pick-Up or Arrange Shipping

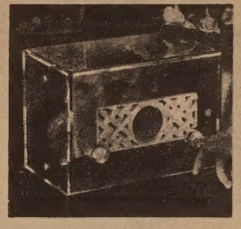
Radio - Clocks



Mirror - Radios



Sparton 1936 Line

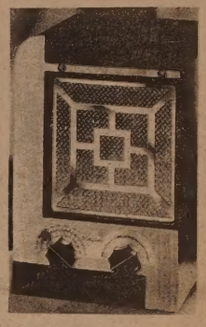


Gilfillan "Glass" Radio

Model 557
5 Tubes

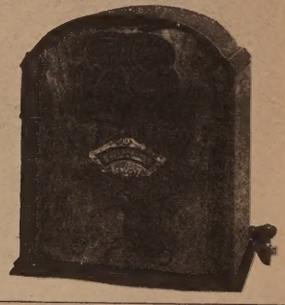
Zenith Stratosphere
Radio #2501 PC

Chrome & Wood
Radios

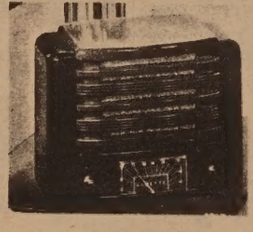


Majestic Model 49

Cathedral or Mantel Radios

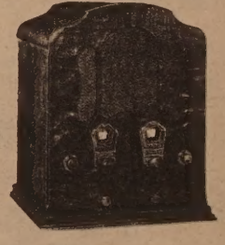


Colored Radios



Large Zenith
Table Radios

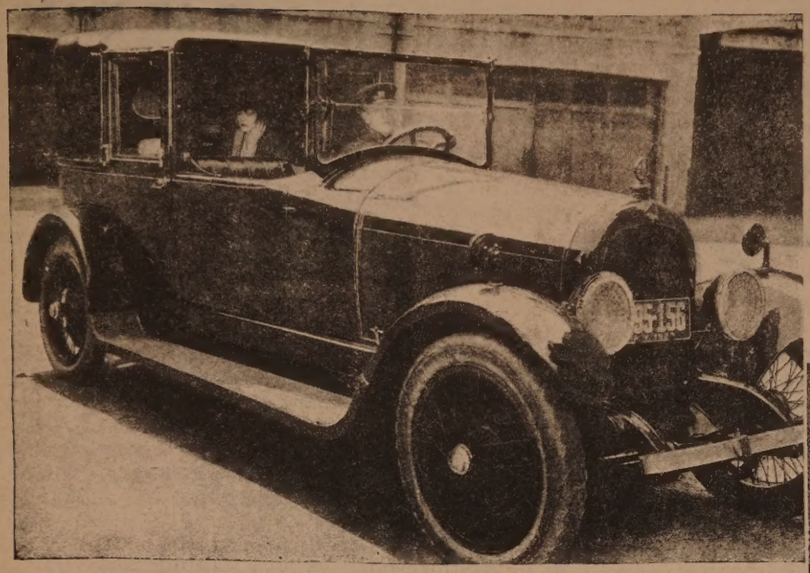
Dual-Tuner Radios



Nate Alexander, Jr.
P.O. Box 866
Milwaukee, Wisconsin 53201
1-414-276-6773

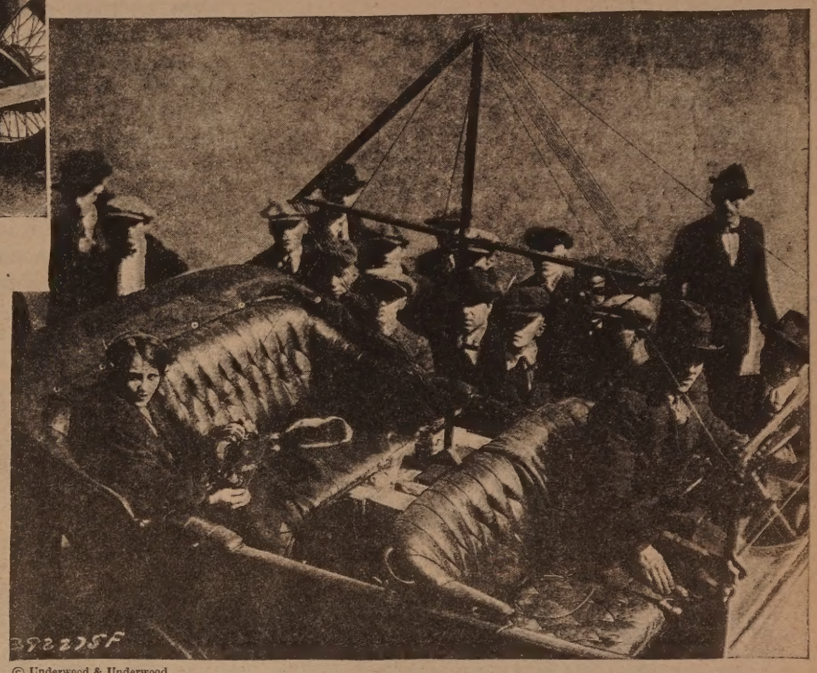
Radio on Your Motor Car

POPULAR RADIO, December 1922



A PORTABLE SET DE LUXE

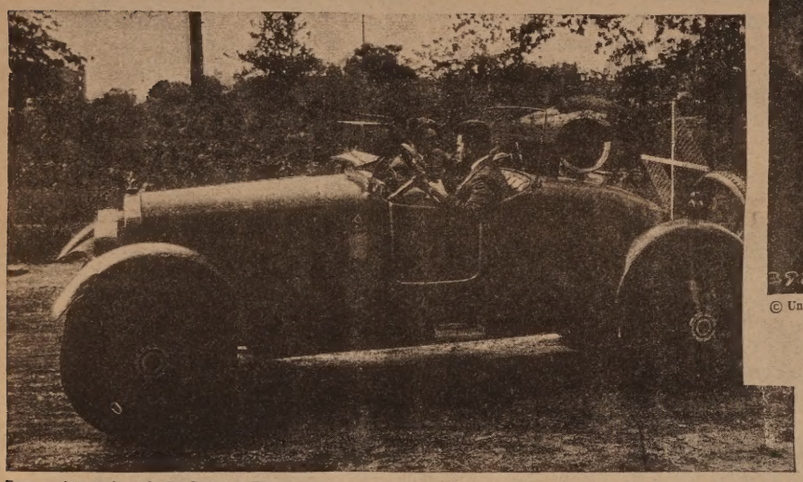
The loop antenna, the property of Miss Corinne Griffith, the film star, is coiled in the leather case of the portable receiving set, which may be carried about and used



© Underwood & Underwood

PRACTICAL—BUT INCONVENIENT

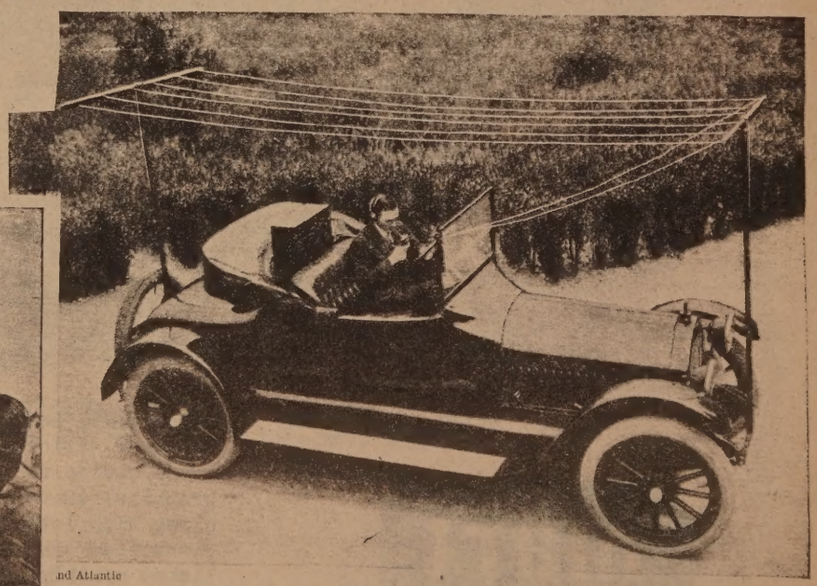
If this motorist really wants to receive broadcast programs, this installation may be commended on grounds of efficiency. But it is a bit spectacular for the average fan.



From a photograph made for POPULAR RADIO

THE ARMSTRONG SUPER-REGENERATIVE SET ON AN AUTOMOBILE

The vertical loop, located at the rear of the car, in combination with a loudspeaker, creates such a volume of sound that the owner was warned by a traffic policeman in New York against collecting a crowd that obstructed traffic.



nd Atlantic

CUMBERSOME—BUT ESSENTIALLY PRACTICAL

Here is a real antenna, easily dismantled, that A. H. Grebe, of New York, uses both for receiving and transmitting.

© Underwood & Underwood

A HORIZONTAL LOOP ANTENNA ON THE ROOF OF A LIMOUSINE

This installation may be made a permanent fixture on the car, and has the advantage of being out of the way. This set, owned by a Cincinnati fan, cost $50.

PRICE INCREASE DUE TO PRINTING PRICE INCREASE

The subscription rate for The Horn Speaker after March 1, 1980 will be $7.00 yearly--$12.00 for two years. First class will be $12.00 yearly--$20.00 for two years.

Remember only $12.00 for two years at regular rates.

Old rates apply until March 1, 1980.

Rates for THE HORN SPEAKER
One year.....$5.50
Two years.....$11.00
Special rates for one year
(mailed in envelope)
First class.....$10.00
Foreign Air Mail...$16.00

BACK ISSUES
ORDER NOW!

All 10 for 1073...$8.00
Single..$1.00
All 10 for 1974...$6.00
Single..75¢
All 10 for 1975...$5.00
Single..75¢
All 10 for 1976...$5.00
Single..75¢
All 10 for 1977...$5.00
Single..75¢
All 10 for 1978...$5.00
Single..75¢
Single issue for 1979....$1.00

THE HORN SPEAKER
Box 53012
Dallas, Texas 75253

S. LEONARD

Horn phonographs music boxes
crank organs, daguerreotypes, clocks,
old mechanical toys, battery toys,
Bought, sold, traded and serviced.

P.O. Box 127
Albertson, L.I.,
N.Y. 11507
U. S. A.
(516) 742-0979

mart

Classified ad rate: 6¢ per word.
Photo ads $2.00 extra.
Deadline: 20th of the preceding month.

PHOTO ADS ONLY $2.00 EXTRA

REPAIRS MADE ON ANTIQUE CRANK-TYPE PHONOGRAPHS. Sound reproducers overhauled. Springs repaired. Also WANTED any parts to these phonographs.
John Nagy, Route 1, Box 135,
Walcott, Iowa 52773.
(319) 843-2108 evenings.

ATTENTION TESLA ENTHUSIASTS!
Information on Tesla is difficult to obtain. Now there is a magazine for Tesla historians and electrical experimenters: "Tesla's Technology". Published 6 times yearly; 8½" X 11" nicely printed. Each issue contains; Feature article, reprint of old Tesla article, Tesla patent, Serial articles, notices. Subscription $10.00 yearly.
Tesla Research Society, 151 Grofftown Road, Lancaster PA 17602..

HOUSTON RADIO CONTEST

Houston radio collectors are polishing up their sets for the March 1980 contest. They want everyone to come in and help them make their first contest a great success. Fenton Wood, a valuable officer of the Association, is now working on the preparations of the contest rules and the procurement of trophies. Fenton is now gathering information on contest procedures.

The two large national radio clubs, Antique Wireless Association and Antique Radio Club of America have always gathered large measures of success and interest in their contests. The Houston Club is interested in giving more areas of interest to their membership. For more information on what the Houston Club is doing write to: Houston Vintage Radio Association 4215 Ravine Drive, Friendswood TX 77546. Out of area membership over 150 miles is only $6.00.

Since 1975 "Radio Age" magazine has featured articles on the history of early radio, restoration hints, biographical sketches of radio pioneers along with lots of photographs and classified ads. "Radio Age" is published monthly except July and August. Subscriptions are $10.50 for 1st class mailing and $8.50 for 2nd class mailing. Send check or money order to Radio Age, 636 Cambridge Rd., Augusta GA 30909. Sample $1.00.

FOR SALE OR TRADE

RADIOS FOR SALE
1. Stromberg Carlson 1A.....$150.00
2. Federal 58..... 525.00
3. Radiola V..... 300.00
4. Radiola II..... 325.00
5. Crosley Tridyne..... 45.00
6. Mohawk 1 dial..... 30.00
7. Freed Eiseman NR5..... 75.00
8. Chelsea 3 tube..... 100.00
9. Radiola RA-DA..... 250.00
10. Radiola 24..... 200.00
11. Crosley 51P..... 125.00
12. Crosley 52..... 110.00
13. Magnavox drower no cabinet.25.00
14. AK model 10 unrestored... 375.00
15. AK model 10C clean..... 350.00
16. Kenman 5..... 45.00
16A Victoreen Superhetrodyne. 125.00
17. Mesco Manhatten radio horn 65.00
18. WE 10D radio horn..... 80.00
19. Magnavox R2 horn..... 70.00
20. Music Master horn, crack in bell..... 70.00
21. Large homemade loose coupler 65.00
22. Atlas Horn Speaker..... 30.00
23. Mesco Red Seal headphones 15.00
24. The Radio Decade, a history of RCA & radio 1930..... 14.50
25. Experimental Wireless Stations, by E. Delmon 392 pages 1922..... .... 14.00
26. Radio For The Millions 1943..... .... 9.00
27. Radio Design Vol. #1, fall 1931 Pilot Radio & Early TV... 6.00
28. Hamilton Carr Radio wholesalers catalogue 1928..... 12.50
29. Radio Experimenters Handbook 1932, 136 pgs..... 10.00
30. Trymo Radio Co. catalogue no cover..... 8.00

WAVES, 32 East 13th. St., New York 10003. Phone 212 989-9284.

FOR SALE: AK model E speaker (fair condition) $12. Vesta Battery Eliminater #B200 $10., Freshman Polydyne (model N) $15., Parts for Radiola 44, AK 60 & 65. All plus shipping. Tubes (1930's - present) 50¢. SASE for list.
WANTED: AK type "Y" power for model 36.
Bruce Harbeck, 1316 - 38th, Sioux City, Iowa 51104.

S. LEONARD

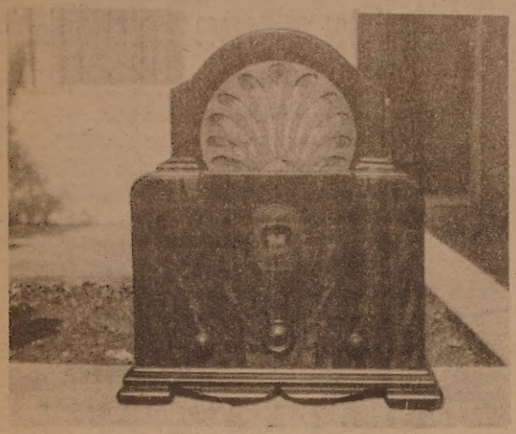
WANTED!

Horn phonographs music boxes
crank organs, daguerreotypes, clocks,
old mechanical toys, battery toys,
Bought, sold, traded and serviced.

P.O. Box 127
Albertson, L.I.,
N.Y. 11507
U. S. A.
(516) 742-0979

FOR SALE OR TRADE

FOR SALE OR TRADE: Atwater-Kent Breadboard radio with 3 tuners and round speaker horn, needs work, $390.00: and RCA Radiola 60 with separate speaker & extra tubes $190.00: and Ware Type B-1 round top table radio $190.00.
Deane Neitzel, Route 3, Box 10, Watertown WI 53095, 414 261-2915.



REVERE CATHEDRAL has glass to light grill area $275.00. Have 25 more battery radios. 100 more AC radios old T.V.s. Everything is FOR SALE, lists $1.00.
Will buy outside horn phonographs, AK Breadboards, radio horns, cathedral radios for CASH!
Any quanities. Have $35,000 to invest. Don't sell get my offer first.
Charles Seidele, 925 Starlite, Grants Pass OR 97526.
Phone: 503 476-1078.

TUBES FOR SALE - NO LIST- Send your wants. Subject to tubes on hand. While they last $1.00 each. Most popular numbers available. (No WD-11's - 199 or 01A's). Postage paid on all orders over $50.00.
Ken George, Route 4, Box 408, Clyde, Texas 79510.

I have a battery eliminator, its an old one a Kingston made in Kokomo, Ind. It needs a rectifier tube. It had an Atwater Kent #607. Can some one tell me where I can get one or a substitute.
Arthur Ward, P.O. Box 374, Convoy, Oklahoma 45832.

FOR SALE: RA/DA-RC w/tubes, nice, working...$199.50 ppd.
Western Electric 7-A amplifier, nice, not checked, w/tubes...$149.00 ppd.
A-K20-C, nice, not checked, w/tubes, ...$72.50 ppd.
A-K type E speaker, looks good, works, ...$30.00 ppd.
List for Feb. large SASE & quarter.
Chester Wisner, 1014 Main Street, Dalton, Mass. 01226.

FOR SALE OR TRADE

FOR SALE:
1. RADA with one dud brass base 01A. Excellent condition..... .....$135.00
2. Crosley Showbox model 706-60 plus matching Dynacone speaker. Gray wrinkle finish. Eight tubes included but set not working. Very good condition....$75.00.
3. Crosley Dynacone type F four wire and type E two wire speakers. Excellent brown wrinkle finish and working.....$30.00ea.
4. Radiola 100 speaker. Excellent and working.....$35.00.
5. Temple drum speaker, wood base and good working condition..... .....$25.00
6. Large drum speaker, black with gold crackle, excellent and works.....$30.00.
7. Cabinet for Radiola 18, excellent original finish.....$20.00.
8. Freshman Masterpiece junk set no cabinet. Top page 89 of "Vintage Radio".....$20.00.
9. Headphones - large box contains about 25 old complete sets plus many extra parts..$65.00 for all.

BOOKS
1. Hawkins Electrical Guide (1917) - complete 10 volume set plus dictionary. Many wireless diagrams. Excellent.....$15.00.
2. Ghirardi -- Radio Physics course and Modern Radio Servicing. Both excellent.....$12.00 each.
3. Hayward -- How to Become Wireless Operator. Many diagrams, good... .....$12.00.
4. 1918 Year Book of Wireless, many photos and diagrams, excellent.. .....$18.00.
5. Moser and Wostrell -- Practical Radio, (1924), excellent, many diagrams.....$12.00.
6. Stone - Elements of Radio Communication, (1923), excellent. Many photos.....$12.00.
7. Airplane and its Engine (1928), many photos, excellent...$12.00.
8. Thomas Edison - Benefactor of Mankind, by Miller (1931). An excellent book with many early photos.....$20.00.

All items plus postage.
G. Eckley, 604 Stuart Ave., Baltimore MD 21221.

FOR SALE:
Atwater Kent Model 20C.....$125.00
Stewart Warner Model 300..... 125.00
Silvertone Model 1954..... 60.00
Sold with tubes and working.
Atwater Kent horn speaker "L". 50.00
Power supply for battery radio 65.00
VT-4-C tubes, new..... 10.00
QST - 1950 to 1959..... 22.00
1960 to 1969, $25., 1970 to 1975 $22. All items plus shipping.
L. O. Ester, W9OEV, 1235 Hillcrest Lane, Freeport, Ill. 61032.
Phone 815 233-4350.

FOR SALE OR TRADE

FOR SALE: RCA Radiola replacement transformers: Custom made to correctly fit inside your original shell. For Radiola III, 20, Victor 7-1, 7-3, 7-30. Also electrically correct replacement for push-pull driver and choke output used in Radiola III-A and balanced amplifier. Good general audio transformer replacement too! $6.25 each, 2/$12.00 or 4/$22.00 + postage at 0.7 pounds each.

Old style silky brown or gold cloth covered AC line cord. Authentic! 20¢/foot or 16¢/foot for 100' or more. OK to mix colors to get 100' price. Add $1.50 for shipping.

Also have litz and other cloth covered wire and crystal set parts available. SASE for wire samples + more info on all items.
Robert Goodman, 7943 Ponce, Canoga Park CA 91304.

FOR SALE OR TRADE: Collection of old-time television programs on 16mm. film. Many selections, all excellent condition. $50.00 each or trade for cathederal radio, particularly Atwater Kent or Philco. Write for list.
David Taylor, 108 Bass Street, Tallahassee FL 32301.

FOR SALE OR TRADE
Electro static generator - hand crank rotating glass drum; used in early electric experiments. Vacuum generator with various sized glass chambers used in early lamp and tube experiments. Both museum dated 1740-1760, made by W & S Jones London. Have a current letter of appraisal. Might sell but prefer to trade for horn phonos.
D. Dexter, 151 Hudson St., N.Y. N.Y. 10013. (W) 212 975-6231, (H) 212 226-4885.

FOR SALE OR TRADE
Tubes, sets, speakers - WD-11, 99, 01As horn & cabinet speakers, a few mint battery sets sell or trade for cathedrals or horn phonos.
D. Dexter, 151 Hudson St. N.Y. NY 10013. (W) 212 975-6231, (H) 212 226-4885.

SWAP--Tuska model 225 for Federal of same vintage.
Walter Childress, 1220 W. 71st. Place, Chicago IL 60636.

FOR SALE: 201A tubes $10.00 each.
Radiola III, no tubes $100.00.
Atwater Kent #30 $100.00pp.
Mary Cutini, 2114 Main Rd, Corfu New York 14036.

QRS magazines for sale. Pat Cutini, 2114 Main Rd., Corfu N.Y. 14036.

FOR SALE OR TRADE

FOR SALE: Cathedral, battery and AC radios from 1920's and 1930's. Please send large envelope with two stamps.
C. Albert Warren, Box 279, Church St Waverly PA 18471.

1932 GE TUMBSTONE CLOCK RADIO $350. or trade. Twenty battery radios. Fifty Cathedrals, Tumbstones, AC sets speakers, televisions. Send $1.00 for new lists. Charles, 925 Starlite, Grants Pass OR 97526.
Want to buy outside horn phonographs and Atwater Kent Breadboards, pay $200 to $1500 ea.
503 476-1078.

TUBES FOR OLD RADIOS, TV's. Most are $2.00 new, $1.00 used, plus postage, insurance. Tested before shipment. Good used UX201A's $4.50 each, plus postage. Send wants with SASE. Weibezahl, 305 Belvidere Ave., Washington N.J. 07882..

FOR SALE: DIAMOND PHONOGRAPH NEEDLES FOR ALL MAKES AND MODELS. $5.00 ea. PLEASE SEND OLD NEEDLE IF POSSIBLE, OR MAKE AND MODEL NUMBER OF PHONOGRAPH. STEEL NEEDLES ARE AVAILABLE IN PACKAGES OF 25 FOR $1.00. RECORD CLEANING CLOTHS WHICH CONTAIN AN ANTI-STATIC SOLUTION ARE AVAILABLE FOR $1.25 ea. ALL ITEMS ARE POSTPAID. ORDERS TO: KEITH ELECTRONICS, 209 BELLEFONTE AVE., LOCK HAVEN PA 17745. ALL NEEDLES CARRY A ONE YEAR FREE REPLACEMENT GUARANTEE. SEND YOUR ORDER TODAY..

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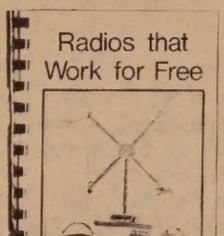

"Radios that Work for Free" is a "How to" book for all ages. This is the most comprehensive work of its kind. Not only does the reader get a new hobby, but the skills necessary to continue in a science and art that needs revival. The projects can be built from recycled junk on the kitchen table by the novice with assured success. Years of research and countless hours of experimentation have been accumulated to provide this base for the beginner. You will fill many hours building, listening and experimenting with "Radios that Work for Free."

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Please place my order for____copies of "Radios that Work for Free" by K. E. Edwards at $5.00 per book. (CA. add 6% tax) Please add 50¢ for postage/shipping. Check must accompany order.

Ship to: _____

FOR SALE OR TRADE

RADIOLA VIII console cabinet, stripped to refinish. Excellent condition. Also separate Radiola VIII chassis, less tubes. Offer or trades. Baldwin head phones, broken green cord, excellent, $20. Also some E. H. Scott receivers, console cabinets, good condition, with tubes, not restored. Offer? Have bound copy 1916 Electronic Experimenter Jan-June, brown leather, mint. Offer?
S. A. Cisler, P.O. Box 1644, Louisville KY 40201. Mail only SASE..

FOR SALE: OLD RADIO'S, TUBES, HORNS, SPEAKERS, RADIO PAPER, TUBE TESTERS, PLUS MORE. LIST 1-80 50¢ PLUS LARGE SASE W/2-15¢ STAMPS.
KRANTZ, 100 OSAGE AVE., SOMERDALE N.J. 08083..

FOR SALE: AUTHENTIC REPLICAS: FRONT PLATES FOR AK VARIO COUPLERS, VARIOMETERS, TYPE 11 TUNER, DIALS, KNOBS, POINTERS, BINDING POST NUTS, PUSH BUTTONS, BELT DRIVE PULLEYS FOR AK AND MUCH MORE. SASE FOR LISTINGS.
K. PARRY, 17557 Horace, Granada Hills CA 91344.

FOR SALE: BATTERY RADIOS and A.C. SETS. SEND S.A.S.E. FOR LIST.
WANTED: PARTS FOR RCA RADIOLA IV, AND WD11's ANY CONDITION.
Raymond Thompson, 7422 Cherry Tree Drive, Fulton, Maryland 20759.

FOR SALE: DE FOREST REPLICA PARTS, ALSO ONE ACMEFLEX RECEIVER, IT HAS THREE STAGES OF UNTUNED R.F., THREE STAGES OF REFLEXED AUDIO AMP. AND CRYSTAL DETECTOR. ALL OF THE TRANSFORMERS ARE GOOD, A VERY NICE SET $90.00. Joe Horvath, 522 Third St. San Rafael CA 94901

FOR SALE OR TRADE FOR OUTSIDE HORN PHONOGRAPH. RCA VICTOR VE 8-4-Acustical sound AC motor delux console with doors clean. Call Chuck, 503 476-1078

FOR SALE; RADIOS, SPEAKERS, TUBES, MAGAZINES, BOOKS, TESTERS, PARTS, Ask for list 1-80 SASE w/2-15¢ stamps and 50¢. Krantz, 100 Osage Ave., Somerdale N.J. 08083..

AK #20 Radio complete with #10 Horn Speaker, tubes and demonstrator batteries $500.00.
Lappin Radio, 210 N. Goodwin, Urbana IL 61801. Ph: 217 367-9912.

THOSE WHO BOUGHT A LEMCO REPLICA FROM ME CAN OBTAIN THE LID LABEL FOR A SASE.
Bob, W6ME, 4178 Chasin St., Oceanside CA 92054.

November list of 300 old radio items. SASE and dime.
Chester Wisner, 1014 Main, Dalton, Mass. 01226.

FOR SALE OR TRADE

FOR SALE: 1921-3 Westinghouse RC (RADA combe) 3-tube regen. complete, GC but untested, less tubes $175. 1924 Radiola III, GC, untested less tubes $65. Horn Speakers: 1921 Western Electric 10-D, VGC $100; Magnavox R-3, VGC $90; Stromberg Carlson straight-neck type, $75; Thorola horn (no base or driver), near mint $35. 1930's Dayrad type 880 radio tester, oak case, instruction, exc. cond., $45. All plus shipping.
H. Burke, 1201 Happy Hollow, Plattsmouth NE 68048.

FOR SALE: RIDER'S RADIO MANUALS
I thru XXI (21 volumes, xlnt)..$275
I thru XIX (19 volumes, xlnt)..$255
II thru XIV (13 volumes, gd)...$190
III thru XIV (11 vols, no XI)..$130
RIDER'S TV MANUALS: I, II, III, IV, V, VII & VIII (no VI, gd).....$150
Sets will not be broken. Postage of $1.50 per volume required, unless picked up.
C. Kirsten, 604 Fremont St., #1, South Pasadena CA 091030.
Ph. (213) 441-1710...

RESISTOR LINE CORD REPLACEMENT KIT
Here is a kit that will allow convenient and safe replacement of worn or defective resistor line cords. This kit is presently supplied for use with radios having tubes with heaters drawing 0.3A of the 6A7, 6D6, 75, 43, 2525 variety. Two models are currently available:
RLC-1 For 4 tube radios using above type tubes....$3.50.
RLC-2 For 5 tube radios using above type tubes....$4.50
Resistor line cord kits for other combinations are available by special order. Please write for details and prices.
Order from: Olde Tyme Radio Co., 2445 Lyttonsville Rd., Silver Spring MD 20910.

ANTIQUE SHOW AND FLEA MARKET, LIMITED TO: RADIOS, PHONOGRAPHS, MECHANICAL MUSIC AND TOYS. TO BE HELD DECEMBER 8th AND 9th AT BOEFF HALL, NAVARRE, OHIO. DEALERS AND COLLECTORS NOTE: FREE SET-UP SPACE! FOR MORE INFORMATION CALL: JEFF KRAUS, 424 COLUMBIANA, NAVARRE, OHIO 44662. TELEPHONE: (216) 879-5083..

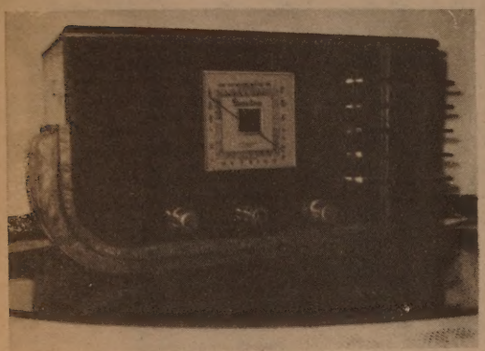
FOR SALE: 71-A tubes. Guaranteed new in original war surplus boxes. $5. each post paid. Will also trade equivalent worth for WD-11, WD-12, Raven or DeForest tubes in good working condition. C. Kirsten, 604 Fremont St., #1, South Pasadena CA 91030..

FOR SALE OR TRADE: Atwater Kent parts 1927 - 1930, technical help, early electrics specialists.
Vintage Radio Shop, 1419 - 8th St., Rockford IL 61104.
Telephone: 815 964 3221..

FOR SALE OR TRADE

For Sale or Trade: Two AK 10 Breadboards - Grebe CR9 - Federal 59 - Federal 110 - BC 14A - SCR59, SCR68 - 2-BC10A.
Radiocrafters Inter-Panel same as De-Forest - Radiola III + IIIA - Pilot super wasp with coils.
Call Roger 815 964-8199. Calls prefered as I have no time to write.

WANTED



COLORED MIRRORED RADIOS (blue, peach, green) wanted by obsessed collector. I'm also interested in colored mirrored clocks. Can use any unusual items from art deco period, such as chrome radios, weird colored plastic radios etc. Also wanted: Philco predicta television sets, coin operated radios.
Barbara Gorton, Box 1252, Dayton, Ohio 45401. (513)253-5073 evenings.
.....

WANTED: Philco model 90 Cathedral in good restorable condition. Want power supply cover for AK 40. Want wiper arm and good transformer for Radiola III. Gene Densmore, 2125 Cambridge Drive, Tallahassee FL 32304. Phone: 904 576-2125..

WANTED TO BUY: early electrics and cathedrals (non-working). Contact: Vintage Radio Shop, 1119- 8th St., Rockford IL 61104. Phone 815 964 3221..

WANTED: The microphone cable connector plug for WE-630 8-Ball, and the WE-639 Cardiod. Also need the Cannon connector plug for the RCA 50-A Inductor. Also want any early Broadcast Remote Amplifiers such as the NBC ND-10, RCA OP-5 and OP-6, WE-22A, WE-23A or other similar equipment. Still looking for Early RC Mics. for a museum. Ralph G. Maddox, Purgitsville WV 26852. Telephone: 304 289-3069..

WANTED: Zenith model 6S222 Black dial set or similar model. Also wanted pre-1930 Suitcase portables and Kellogg tube sets.
M. Rosenthal, 507 S. Maryland Ave., Wilmington DE 19804.

WANTED

WANTED: Tri-City Radio Corp., battery sets and any information pertaining thereto, and Crosley models V, VI, 50, XJ. Send description and price.
John Geyer, 8345 Mitze Way, Denver CO 80221.

WANTED; I will pay up to $1500.00 for an extra clean Scott Radio Labs (Scott Special) as per page 252 in "The Flick of the Switch."
Prefer phone calls 815 964-8199-not collect. Roger Rees.
I will also pay top money for other rare radios especially Norden-Hauck Super Hets!!

WANTED: RCA RADIOLA 82 or 86 receiver chassis assembly with remote control, or just AC motor tuning assembly from same. Used in Westinghouse WR-8-R Grandfather clock radio. Also Silvertone model 115 Cathedral schematic, and early ceiling fans and brass blade table fans.
Richard Cane, 8391 N.W. 21st St., Sunrise FL 33322.

WANTED: WIND POWERED ELECTRIC GENERATORS - parts or complete units, any condition. Prefer unit made by Jacobs Wind Electric Co. of Minneapolis (1930-1950) - 3 blade propeller, 32 or 110 volt D.C., 2000 - 3000 Watt units. Jacobs units are direct drive (no gear box) and weigh over 300 lbs. If you know of one, let me know - I can remove unit from the tower. Contact Richard Walter, 3415 Roosevelt Dr., Arlington, Texas 76016.

JOHN FIRTH CO. (FIRCO) is my specality. Looking for any equipment, parts, literature or information in any condition.
Larry Wright, 131 Hilltop, Lake in the Hills IL 60102. Ph: 312 658-5993.

WANTED: CAR RADIOS 1929-1957 ORIGINAL TYPES. ALSO ANY PARTS, LITERATURE AND ASSOCIATED ITEMS, VIBRATORS, ANTENNAS ETC. CASH PAID. PLEASE PRICE AND DESCRIBE.
MARVIN ROTH, 14500 LABELLE, OAK PARK, MICHIGAN 48237....

WANTED: Philco 90 cathedral, AK 20 cathedral and other AK cathedrals. Also need metal back-top for AA-1400 of a Radiola VI.
Charles Green, 5225 Broadway, Great Bend KS 67530. Ph: 316 793-7973..

WANTED: Philco 90 cathedral, AK 80 cathedral and other AK cathedrals. Also need metal b back-top for AA-1400 of a Radiola VI.
Charles Green, 5225 Broadway, Great Bend KS 67530.
316 793-7973..

WANTED

WANTED IN ANY CONDITION HALLICRAFTERS SUPERSKYRIDERS ANY MODEL ALSO PLUG IN COILS FOR PILOT SUPER WASP HAMMARLUND COMET PRO AND NATIONAL FB-7. ANY OLD HAM RECEIVERS ESPECIALLY FB-7 COMET PRO RME-69.
DAVE MEDLEY, 6621 DUFFIELD DRIVE, DALLAS TX 75248. Ph;(214) 386-3982...

WANTED: HALLICRAFTERS, MANUALS, BOOKS, CATALOGS, ADVERTISING ITEMS, ACCESSORIES, PARTS.
G. Barber, P.O. Box 31654, Aurora CO 80041.....

WANTED table model radio sold by Sears (Silvertone) in mid 1930's does not have to be in playing condition. Case size 8" deep, 11" wide and 14" high.
R.M. Collier, 3044 N.W. 68Ct. Oklahoma City OK 73116.

WANTED AK BREADBOARDS and outside HORN PHONOGRAPHS. Pay $100 to $1000 each or trade groups of old radios for them.
Chuck, 925 Starlite, Grants Pass, OR 97526. Phone: 503 476-1078.

WANTED; WIRE RECORDERS: Armour, Brush, unusual types only. Also: VLF Signal Simulator, c.1968, pre-1940 TV literature.
H. Layer, AV-SFSU, 1600 Holloway, San Francisco CA 94132. . . . . .

WANTED: Coin-operated phonographs, pre-1900 phonographs--any condition. Edison Opera, Idelia, AIVA, Concert, "M" electric. Zonophone, Queen Busy Bee. Edison Royal Purple cylinders. Quick reply. Describe and price. Send photo if possible.
Kaplan, 129 Howell St., Canandaigua New York 14424.

WANTED: Viking Valiant II, will trade National SW5 with tubes.
Fenton Wood, 3122 Annarbor, Sugarland TX- 77478.

WANTED: Crosley 50, 52 tirdyn, etc. Need transformer for Crosley 50-A. Looking for early Crosley service literature.
Jimmy Edington, 9947 Rocky Hollow, LaPorte TX 77571.
Phone: 713 471-3828..

WANTED: PAY $75. for original cabinet for Kennedy 110. Also want RCA model R-28 receiver complete or chassis only.
Fred Bright, 3816 S. Drexel, Oklahoma City, OK 73119.
Phone: 405 685-6827.

WANTED - Driver for Bristol "Baby" Audiophone horn speaker.
L. M. Poulter, 6344 Garwood Ave., Las Vegas, Nev. 89107

PUETT ELECTRONICS

PUBLISHERS OF P.O. BOX 28572 DALLAS TEXAS 75228

ANTIQUE RADIO TOPICS &
THE CLASSIC RADIO NEWSLETTER

LIST NO. 18A

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(1) MAKE ALL CHECKS OR MONEY ORDERS PAYABLE TO PUETT ELECTRONICS, ALL PAYMENTS MUST BE IN U.S. FUNDS AND NEGOTIABLE WITHOUT PAYMENT OF A BANK COLLECTION FEE. MONEY ORDERS ISSUED BY POST OFFICES IN CERTAIN COUNTRIES (CANADA FOR EXAMPLE) ARE ACCEPTABLE IF THEY CAN BE CASHED IN A U.S. POST OFFICE.

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IN A HURRY! You may call J. W. F. Puett at his residence from 9:00 AM to 10:00 PM Central Standard or Central Standard Daylight Time. We will be glad to help you with free technical consultation 214 - 321-0927 or 327-8721.

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		2A6	$5	6K7	$5	7B5	$4	25Z6	$4
		3Q5	$4	6K8	$5	7B6	$5	26	$7
0D3	$3	3V4	$4	6L5	$5	7B7	$5	27	$5
0Z4	$4	5AZ4	$6	6L6	$4	7B8	$5	30	$6
1A7	$4	5U4	$3	6L7	$5	7C5	$4	32	$5
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1L6	$9	5Y4	$4	6SA7	$4	7C7	$5	35	$5
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1U4	$4	6F5	$5	6U5	$8	12AV6	$3	38	$4
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						12Q7	$5	43	$5
						12AS7	$4	44	$4
						12SG7	$4	45	$7
						12SK7	$4	46	$5
						12SQ7	$4	47	$8
						14A7	$5	50	$8
								50A5	$4
								50B5	$4
								50C5	$4
								50L6	$4
								51	$5
								55	$6
								56	$4
								57	$4
								58	$5
								70L7	$6
								71A	$8
								75	$5
								76	$4
								77	$5
								78	$5
								79	$5
								80	$4
								81	$7
								83V	$4
								84	$4
								85	$5
								89	$5
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								117Z6	$5

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Booklets listed in (1) thru (5) below are $2. each, 3 for $5., 4 for $6. or 5 for $7.

(1) The Acquisition Of Antique Radios by J. W. F. Puett
(2) The Complete Restoration of Battery Powered Antique Radios by J. W. F. Puett
(3) The Complete Restoration of AC Powered Antique Radios by J. W. F. Puett
(4) When Was That Old Tube Made? by James R. Wilkins
(5) Antique Radio Tube Substitution by J. W. F. Puett

(6) SILVER GHOSTS by J. W. F. Puett (history of E. H. Scott) $8.95
(7) THE CLASSIC RADIO COLLECTORS HANDBOOK by J. W. F. Puett $10.00
(8) THE APPRAISAL OF ANTIQUE RADIOS by J. W. F. Puett $4.95
(9) The PUETT ELECTRONICS Super Antenna - Ground System Plans $2.00
(10) Cross Reference List of Military vs. Commercial Tube Type Numbers $1.00

See listing for Encyclopedia and Directory on this page.

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WE HAVE SCHEMATICS FOR NEARLY ANY ANTIQUE RADIO RECEIVER! Send name of manufacturer & model number of set - $1.50 postpaid. Without name of mfg. and/or model No. we will search our files for $3.00, but we must have a sketch of top of chassis showing type numbers and location of all tubes and location of front panel & dial.

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WE OFFER THOROUGHLY DOCUMENTED APPRAISALS FOR INSURANCE PURPOSES. Many insurance companies offer special antique insurance policies which cover items which have been properly appraised. SEND ONE FIRST CLASS MAIL STAMP FOR OUR APPRAISAL BROCHURE.

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THE CLASSIC RADIO NEWSLETTER

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February

75¢

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1980

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12-79